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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/351,147	07/12/1999	ARTHUR W. CHESTER	10164-1	9325

23455 7590 05/20/2003

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EXAMINER
GRIFFIN, WALTER DEAN

ART UNIT	PAPER NUMBER
1764	31

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/351,147	Applicant(s) CHESTER ET AL.
	Examiner Walter D. Griffin	Art Unit 1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 March 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Following the Board Decision of March 26, 2003, prosecution is hereby reopened. New grounds of rejection are set forth below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drake et al. (US 5,898,089) in view of EP 0323736.

The Drake reference discloses a process for converting a hydrocarbon feed that may be diluted with steam to produce a C_6-C_8 aromatic hydrocarbon and olefins such as ethylene and propylene using a zeolite catalyst composition. The process comprises contacting a feed such as a naphtha or a gasoline with a catalyst that contains a zeolite (e.g., ZSM-5) and a clay binder (i.e., a substantially inert matrix material). Other binders such as alumina need not be present in the catalyst composition. Therefore, Drake discloses a catalyst composition that contains less than 20% by weight of an active matrix. The catalyst may also include a phosphorus compound promoter. The weight ratio of clay to zeolite may range from 1:20 to 20:1 and the weight ratio of promoter to zeolite may range from 0.01:1 to 1:1. The weight ratio of steam to hydrocarbon used in the process can range from 0.01 to 10:1. Process conditions include temperatures ranging from 250° to 1000°C, pressures ranging from 0 to 200 psi, and WHSV values ranging from 0.01 to 100. The hydrocarbon feed to the process would necessarily have boiling ranges within the claimed range. The product from the process comprises ethylene, propylene, and a BTX fraction. Tables II and III disclose ethylene to propylene weight ratios within the claimed ranges and the total amount of ethylene and propylene approaches 25 weight percent is some runs. See col. 2, lines 44-67; col. 3, lines 1-9 and 29-37; col. 4, lines 56-67; col. 5, lines 1 and 2; and col. 8, line 66 through col. 10, line 8.

The Drake reference does not disclose the claimed initial silica/alumina ratio, does not disclose the amounts of each component as in claim 3, and does not disclose the catalyst to hydrocarbon feed weight ratio as in claim 6.

The EP reference discloses that a catalyst that has an initial silica/alumina ratio within the claimed range can catalyze the conversion of a hydrocarbon to an aromatic compound and an olefin.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Drake by utilizing the zeolite of the EP reference because this zeolite can catalyze the desired reaction of Drake and therefore would be expected to be effective in the process of Drake.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Drake by utilizing a catalyst to hydrocarbon feed weight ratio within the claimed range because one would utilize any ratio that would result in the effective conversion of the hydrocarbons to the desired product.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Drake by utilizing a catalyst having components in the amount ranges of claim 3 because the catalyst amount ranges disclosed by Drake overlap and encompass these claimed ranges. Therefore, utilizing the claimed amounts in the process of Drake would result in the expectation of an effective catalyst and, therefore, effective process.

Regarding the amount of ethylene and propylene produced, if Drake does not disclose amounts within the range contained in claim 10, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Drake to produce amounts within the claimed range because Drake discloses that the amount of these olefins in relation to the amount of BTX can be adjusted by varying catalyst characteristics.

Therefore, if one desires more olefins, one would adjust these characteristics in order to obtain the desired result.

Applicant's evidence of unexpected results is not sufficient to rebut this prima facie case of obviousness since the evidence is not commensurate in scope with the claims. The evidence presented on pages 18 and 19 of the specification is based on processes operated at specific conditions with a specific catalyst. In comparison, claim 1, for example, reads on a wide variety of catalysts and does not include any specific process conditions. Therefore, the scope of claim 1 and the evidence are not commensurate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is 703-305-3774. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

Walter D. Griffin
Primary Examiner
Art Unit 1764

WG
May 15, 2003

Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700